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THE HIGHWAYS AND BYWAYS OF GUATEMALA

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A mass of crimson bougainvillea covering an old thatch had bid us pause. It was February, the season for travel in the highlands of Guatemala.

Up the hillside just below us came two dark skinned nomadic traders from some modern Mayan village. Each carried a heavy load of blankets and pottery on his back, blankets from Quetzaltenango, pottery from Totonicapan. The two were on their way to Chichicastenango where they wished to be on the following Sunday, the chief market day in the highland city. Barefoot and stooping at an angle of about 40 degrees under their loads, they followed the zigzags of an ancient Mayan trail. Here and there in the steeper places of the trail they placed their feet in the deep footprints that had been worn, during the centuries of use, in the gray volcanic ash that had come from some one of a score or more of mountain cones that rise like Fujiyama thousands of feet above the surrounding lands.

SECRETS BURIED FIFTEEN HUNDRED YEARS

Centuries have passed since the ancient Mayan civilization prevailed in the highlands of Central America. For 1500 years the secrets of the coming and of the going of those Mayans have been lost to the world. Perhaps the secrets are buried in some of the numerous mounds of that beautiful highland. Perhaps they are clearly written in the stone carvings on the large monoliths of Guatemala but in a language that no one living today can read. The geographic stage setting is not much changed if at all. The economic adjustments of today are probably much the same as those of yesterday. We may learn much of the ancient Mayan people by studying the modern life in their old homeland.

Two thousand years ago, perhaps as much as three thousand years ago, the ancient Mayan people travelled barefoot along well worn trails in the volcanic dust in the highlands of Guatemala. They were an agricultural people and on their backs or on their heads they probably carried the products of the fields which they cultivated, the wood used in building their homes or in cooking their food, much as their descendants, who inhabit the same region

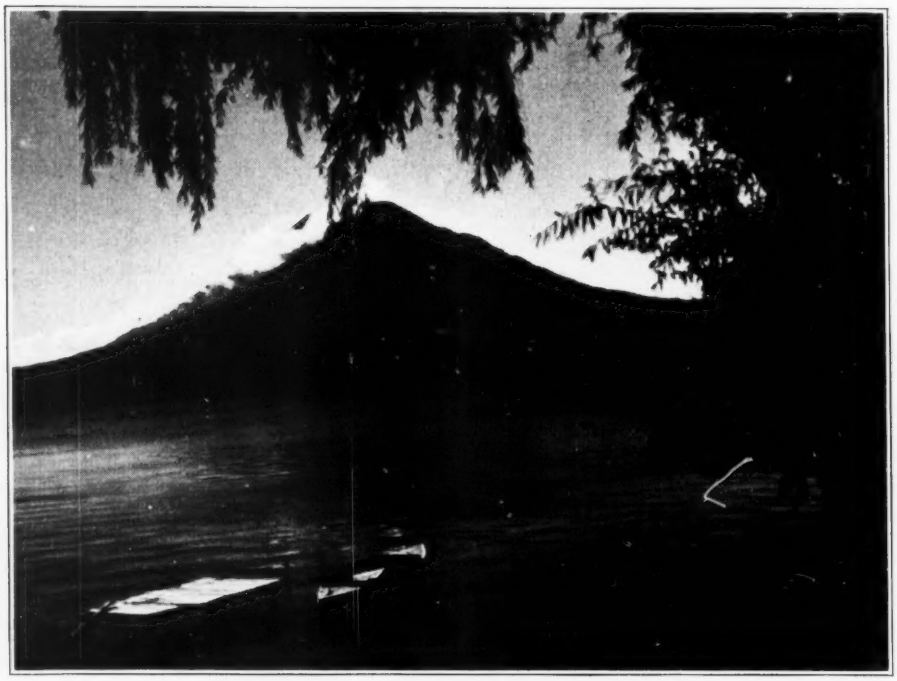

FIG. 1. Toliman, another Fujiyama-like mountain rising about 6000 feet above the waters of Lake Atitlan and 11,000 feet above the sea.

today, carry great loads of corn, wheat, vegetables, blankets, pottery, firewood, timber and meats on their bodies as they trudge along those same trails.

Centuries have passed, but the people now living in this highland region of tropical America probably live much as the ancient Mayan people lived. The trails have been worn deeper, and the stone steps made where the climbing was very difficult have been softened in contour by the millions of bare feet that have passed over them. Zigzag routes that were laid out hundreds of years ago on the hillsides are still in use. Men, women and children wind their

way up and down the hills carrying huge loads on their backs or on their heads as they go to and from the village markets.

Soils Formed of Volcanic Dust

At times the mighty volcanoes that define the southwestern margin of this highland area, throw forth vast quantities of coarse cindery-like fragments and angular blocks of lava several feet in diameter. Such materials caused rough, stony places in the trails, made the clearing of fields difficult, provided irregular blocks used

Fig. 2. Base of a temple built by the ancient Mayan people at Huehuetenango in the Highlands of Guatemala.

in making rude pavement in the villages, and the foundations and lower three or four feet of many of the cabin walls.

Much of the fragmental volcanic debris was in time cemented into firm, hard rock which resists the agents of erosion and stands as vertical walls hundreds of feet high on the sides of the great barrancos or canyons which the streams have cut as they have proceeded with their work of reducing this bold volcanic landscape to the base-plain of erosion.

Each new outburst from the Fujiyama-like cones of Guatemala mantles a part of the country with a fresh layer of whitish dust and gives to the landscape a frosted appearance. Perchance, as in the old world, and in the neighboring lands of Salvador, some of the records of the ancient life of Guatemala are buried beneath materials that have issued from these volcanoes. This part of the

continent of North America is still in the making. The great volcano Fuego is active today. Aggradational or building forces have predominated thruout recent geologic periods. Streams have been blocked and lakes have been formed. Old erosion surfaces have been buried under thousands of feet of ash and new stream courses have been established. Portions of the uplands show the signs of two and at places three partially completed cycles of erosion; other parts are in the stage of extreme youth and some places have not

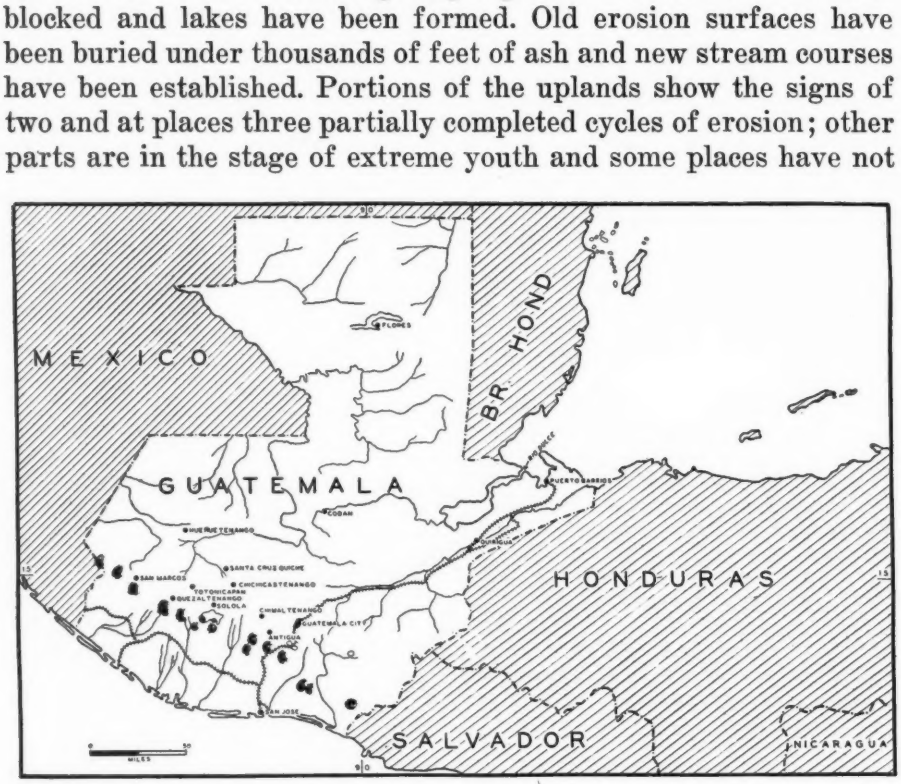

Fig. 3. Map of Guatemala.

as yet been attacked by running water. The beautifully symmetrical cones that form the most spectacular features in the landscape retain at many places the contours of recently cooled flows of lava. Streams have but lightly etched the lower slopes of most of these mighty monuments.

Wet and Dry Seasons

From late October until early May is the dry season in the highlands of Central America, and that is the time when the trails are most in use. The corn and wheat have been harvested and made ready for the markets. Sugar and coffee and fruit must be brought from the hot, tropical lowlands. Wood must be cut and taken to the villages. Pottery awaits distribution and many home made textiles

are ready for sale. The long rainy season makes travelling on the trails difficult and unpleasant. During that season handicraft work proceeds in the homes and in the villages. The people weave their wool and cotton into cloth. From the wool they make large heavy blankets and some parts of their native costumes. The cotton they commonly make up into cloth for shirts, waists, skirts and trousers. Mattings for the floors and for the petatees, placed on the ground when sleeping out over night, are made in some of the homes, pottery at others and embroidery at a few places.

With the coming of the dry season comes the great task of distributing the products of each district and of satisfying the desire common among these primitive peoples of "visiting around," of seeing old friends, and new places and strange faces.

The Nomadic Traders

The villages in a given district hold markets on different days of the week so that those who have articles which they wish to sell may visit several markets. Some of the native people migrate from market to market trading at each center. Some take long journeys in order to trade in the larger markets of Guatemala, Quetzaltenango, Chichicastenango, Atitlan or Sololá. A father and son may start from the Sololá district, where the best onions of the country are raised, and travel four days on the way to Guatemala. There a full-sized man's load of about 150 pounds will bring about $1.50, the boy's load less than half that amount. The trip to Guatemala and return takes eight days. That time is not counted as worth anything. The days in the field raising the crops and the days taken in selling the products are not figured into the costs. The trip to town is a great event, just as the visits to the local markets are events. They are social events. Whether sales are made or not, everyone wants to be in the village on market day.

Pottery is made in large quantities at Totonicapan; cotton and woolen fabrics come from Quetzaltenango; brown sugar comes across Lake Atitlan from San Lucas to Tzanjuyú and thence on to several villages to the north. The men who travel for days along the trails carry their goods for sale and their entire camping outfits on their backs. Those packs are wonderfully interesting. In a crate or frame there may be any of a large variety of articles of trade. Some carry vegetables, others fruits. Some coffee, or chile, rope, twine, baskets, or pottery. Great water jugs are often carried for days and days thru the country to some particular market in the

hope of securing a little better price than at home. Chairs and other articles of furniture made in Quetzaltenango are carried as much as a hundred miles on the backs of men and boys. A man will carry ten to twelve chairs for adults. A boy will carry six to eight small chairs for children. One adult chair may bring 33 cents, and the small chairs about 20 cents. Going to and returning from Guatemala market will take ten to twelve days.

FIG. 4. A native nomadic trader of Chichicastenango with his back pack of water jugs.

On the top of the load carried by a nomadic trader will be found a light blanket and a piece of straw matting which is put on the ground where the traveler plans to sleep. Hanging to the load there is sure to be a small coffee pot, some coffee essence, a bottle of water, a small lamp, a bowl, and a dish in which a corn tamale may be made. The trader is sure to have some tortillas in his pack and some chile which helps to make the tamale palatable.

The over-night stop may be in a little shelter called a ranchito that some group of travelers erected of bamboo rods and grasses. The small trail-side shelters are often used at noon time when a luncheon or merienda is prepared. They also serve as shelters during rains. Along the trails there are springs that have been "opened up" or "developed" so that travelers can get a little water

even during the dry season. A dozen or more nomadic traders may gather in the shade of a great oak tree and there have lunch and visit until the hours of greatest heat have passed. They start early in the morning, sometimes rest for several hours in the middle of the day, and then travel on during the evening. Some never seem to rest at all. They are the most patient and persevering of burden carriers. They trudge along with the persistence of an ox, the patience of a machine, the stoicism of a Japanese, and the good-

FIG. 5. A back pack in the market place at Chichicastenango.

will of a child. A kind word or even a smile wins a cordial response. They are human beings.

The natives in the highlands of Guatemala are simple, industrious hard-working children. They own the country. We are intruders. The widening of the trails for our cars has done them no good. They jump aside when our horns are blown, or when they see or hear us coming. They take a terrible dust-cloud whipping whenever we pass. But they seldom complain. In some parts we are still strange curiosities. They stop work and stare at us. They run from the camera, or if friendship is established they ask what it is. They laugh heartily when allowed to look into the finder. In one little town we had an experience like that of Pizarro or Cortez, for the entire population followed us and chatted to each other about us.

They wondered what we wanted. I happened to pick up a small piece of broken pottery for we were near an archeological site; they immediately looked for other pieces and soon came running to me with many bits of ancient Mayan work.

ANCIENT METHODS OF BURDEN CARRYING

The men of these highlands have a special kind of harness with a leather headpiece for carrying their huge loads along the trails, and they have a long, strong stick or staff which they use in helping

FIG. 6. A nomadic pottery merchant resting in the market place of Chichicastenango. The staff is used to help him in rising or in sitting down.

them to rise with the load, or to rest and get from under the burden. On the trail a man is bent at an angle which will vary from 10 degrees to 40 degrees, depending upon the size and weight of his load or the steepness of the trail. Some loads are so bulky and so high that they must be very difficult to balance. Sometimes the human burden-carrier is almost lost from sight.

The men combine efforts with some loads. Two men will carry a long log or heavy timber. They use the head straps and balance the load between them. Father Rossbach reports that 60 men cooperate in bringing in the long timbers used in repairing the roof of their church. They make sport of the task. It may first be neces-

sary to go 40 to 50 miles to find a suitable tree from which to cut the timber. When the huge beam is ready they start back, thirty men on each side. Each pair of men have a head-strap-harness which they join so that it may pass beneath the beam. Several days are taken in bringing the huge timber home. Half an hour before they are to arrive in town, messengers arouse the whole community. Drums and bells are sounded. All is made ready for a great celebration. The sixty men bring the timber to the church, lay it down and

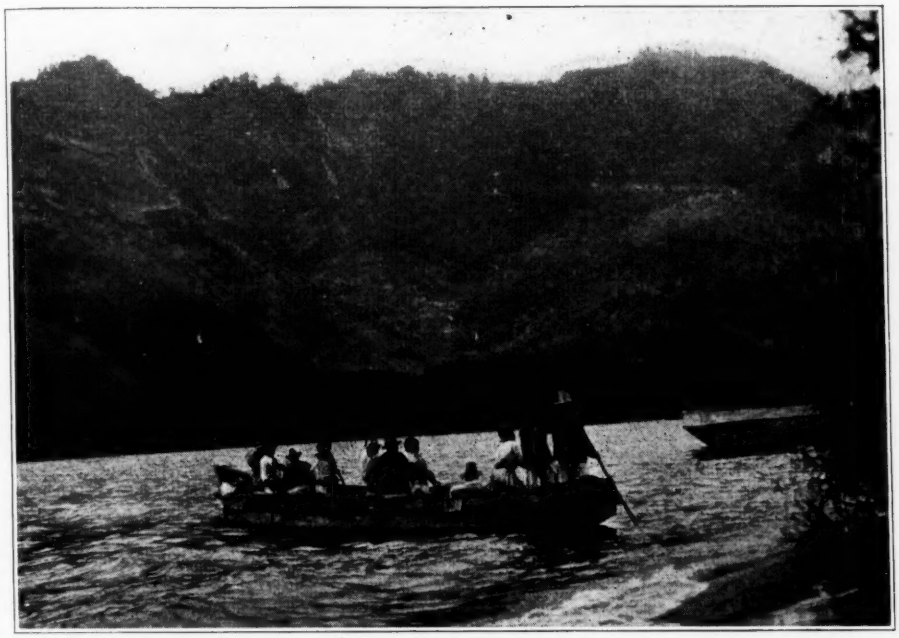

FIG. 7. A group of modern Mayans in dug-out thought to be 200 years old about to cross Lake Atitlan just as their ancestors crossed the Lake centuries ago.

then begin to dance and play. They seem to take great pride and pleasure in doing work for their church. The Padre, who is very good to these people and very liberal in his teachings, receives all kinds of presents in food from his people. He is taken good care of by the natives who are proud to be his house servants. He admits that he sometimes sees a native at the close of his prayers take an idol from beneath the rose leaves that are strewn on the floor. "But what harm does that do?" asks the good Father. "It is a symbol to him, and after all most of our religious services are full of symbols that mean something to us."

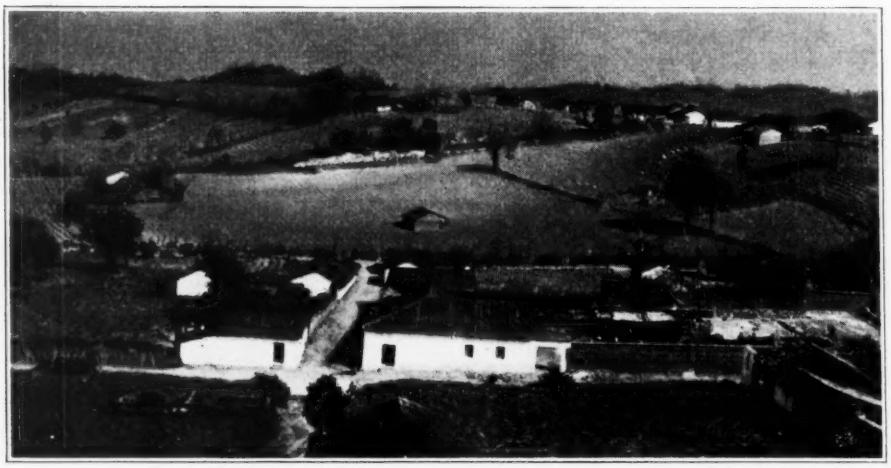

FIG. 8. A rural landscape in the Highlands of Guatemala, gray from a recent shower of volcanic ash.

HOME LIFE AND INDUSTRIES

Bordering the trails thru this highland country there are literally thousands of little thatch-roofed cabins. Many of them are made with bamboo skeletons with adobe filled in between the bamboo rods. About the homes there are shacks where the corn is stored and at the harvest season little stacks of wheat. A thrashing floor, roughly circular in form, may be seen near many of the homes. Its surface has been hardened by the addition of clay, and upon it the harvesters place their bundles of wheat. Then ponies, burros, or small donkeys do the thrashing as they are driven round and round in the enclosure, stamping the grain loose from the chaff.

On some hillsides one sees terraced gardens and in a few places irrigation is being practiced. A little group of these native people sitting on the ground may be husking the corn. Three or four men perchance are at work at the trail-side making adobe brick. A woman just before her doorway sits weaving. At each stream crossing are a few women and girls washing clothes or bathing. At the margins of the lakes many of the native people do their washing, but in the villages large community wash-basins or pilas have been constructed. There running water comes from some hillside spring; niches are made about the margins of this great pool where an individual may work upon the day's or the week's laundry. The scene is exceedingly picturesque. Some are doing the heavy washing of sheets and blankets. Others are engaged in having a refreshing shampoo. Some are bare to the waists taking a partial

FIG. 9. A garden patch near the village of Solola where the best onions are raised.

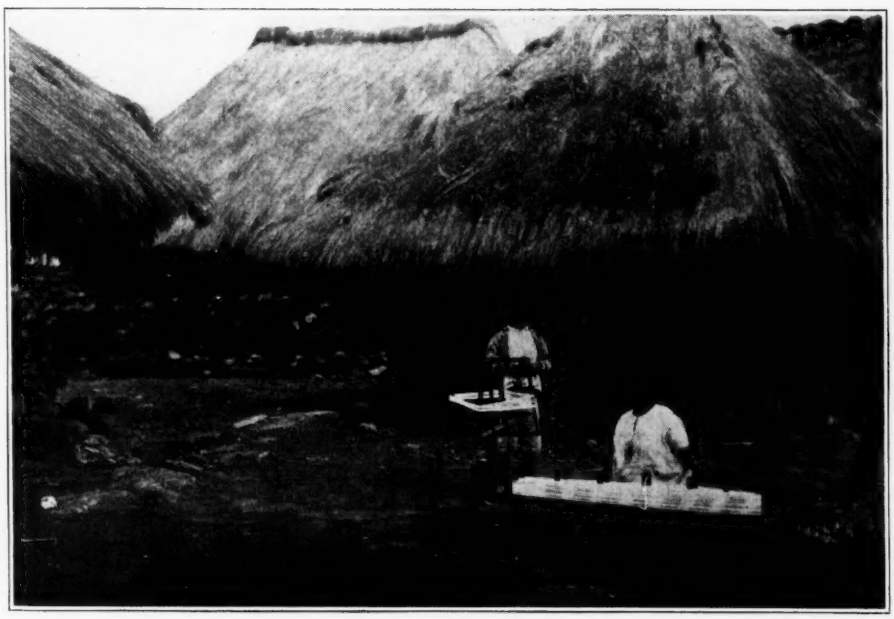

FIG. 10. A dooryard scene in the village of San Pedro.

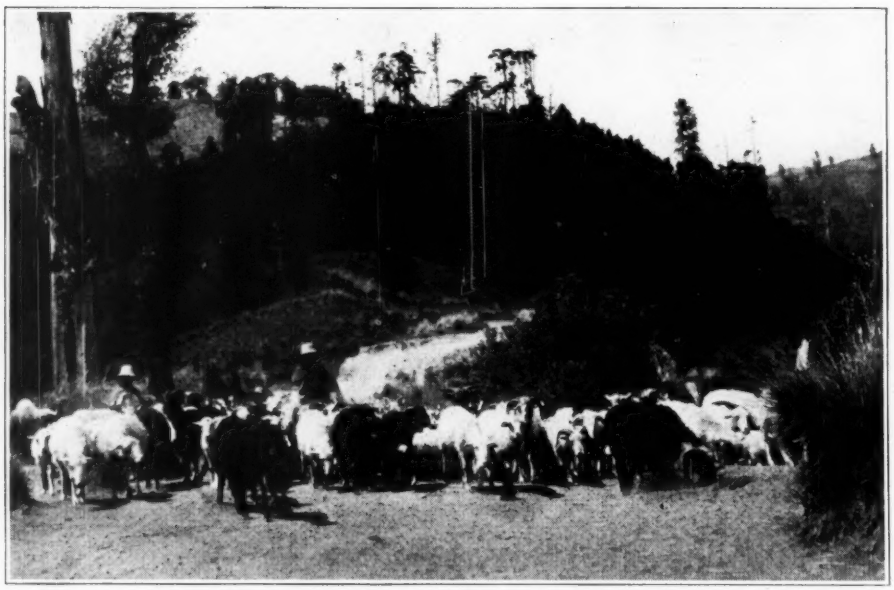

FIG. 11. Shepherdesses with their flock high in the mountains of Guatemala.

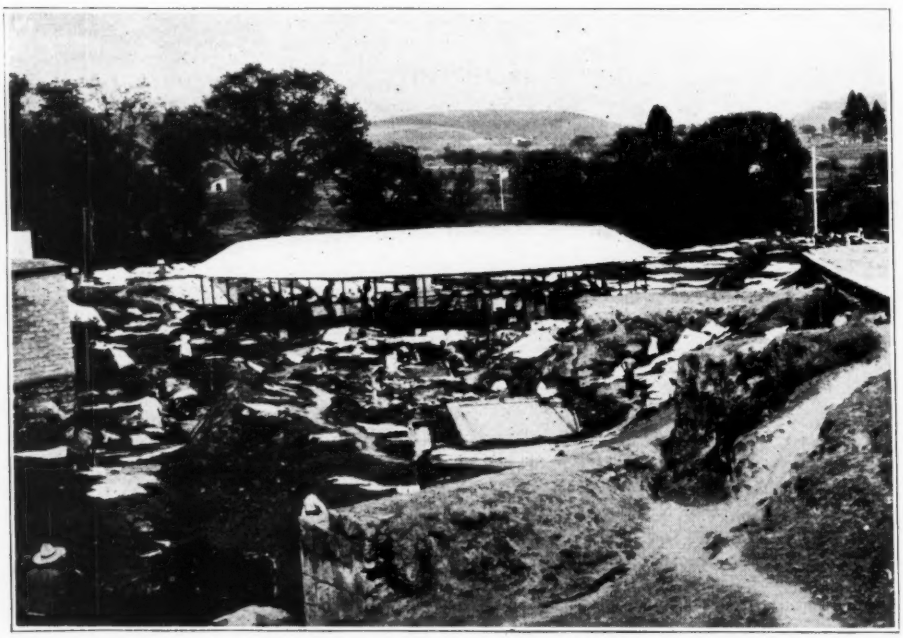

FIG. 12. A community laundry at Quetzaltenango.

bath. Brilliant red skirts, and the beautifully embroidered huipils, worn by the women as waists or blouses, add touches of color that never can be forgotten. Thirty, forty, fifty women, with many of the young girls of the community may be at work at one of those community wash-basins or laundries.

In the mountainous portions of the country one frequently sees the native people clearing their hillsides. First they take away the timber which they can use for construction purposes, then set fire to the remaining wood and grass. Cultivation and planting may begin while stumps remain. Little by little even those remnants of the forest are taken up by hand with the help of great hoes and axes. The pressure of population on the good earth increases and the farmer must clear and use steeper and steeper hillsides for the production of food. The men do most of the work in the fields but many times the women and children help.

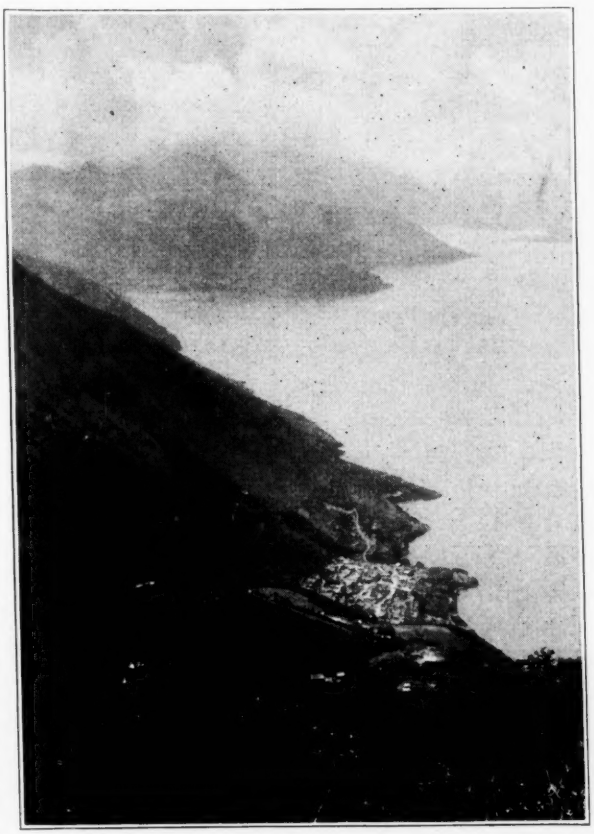

FIG. 13. The east wall of Lake Atitlan with the Mayan village of San Antonio in the foreground.

The women carriers on the byways of Guatemala are exceedingly graceful. They have remarkable posture, for they learn before they are five years old to walk erect and carry a basket or some little load on the head. They commonly put all they have to carry on their heads, keep the arms and hands free and swing along, even running at times, with superb grace. Corn, clothing, yarn, fruit, chickens, anything they wish to take to market is put in a basket and placed on the head. Eight or ten hens with a rooster

or two, all arranged so that they face outward makes a very picturesque load for the head of one of the native women.

Babies are carried on the backs and on the hips of the women. Small children run by the side. In some districts the habit is to carry the baby straight up and down the back and allow its head and feet to show. In other places the child is in a kind of shawl that hangs at an angle on the mother's back, and from that position the youthful Mayan may survey the landscape or watch the kaleidoscopic scenes of a native market-place.

Excelling all in grace is an Indian maiden carrying a large brown jug of water on her head. Watch her swinging her arms freely as she climbs the bank. Her figure is perfectly erect. A bright red skirt reaches completely to her bare feet. Her waist or huipil is made of white cotton cloth with red, blue, and yellow figures woven into it. Try to take in at a glance the brilliant red band ten feet long that has been skillfully worked into her black hair and then bound six or eight times about the head as a halo. Few human figures are more graceful or more symmetrical. Her life may seem hard to you. It may not to her. She knows little or nothing of what we call luxuries. Perhaps she is sorry for us who must wear shoes and stockings, and hats and coats. We who try to carry our loads in our hands may appear very awkward as we bend to one side or the other and stop frequently to rest and change our loads. How little we know! What good are our ribbons, and feathers and neckties? Why do we bind our feet in such heavy leather things? Why do we always boil the water before drinking it? Are our stomachs weak? Why are we so pale? Are we sick? Why do we ride so much in show-case-like boxes? We are certainly a strange kind of people, and many of us never even smile.

When the Spaniards came to this part of the world in the early part of the 16th century they introduced mules, burros and oxen. Before that time the native people of the highlands of Guatemala had but narrow foot trails. Soon the primitive trails were widened for the animals and then for the oxcarts. Today they are being widened again, their grades are being reduced at places, and the sharp curves are being taken out so that the weak or lazy white man may move about in his bad-smelling, dust-making carriages. Changes are taking place that may soon destroy the beautiful simplicity and picturesqueness in the life on the highways and byways of Guatemala and destroy for all time the present replica of the ancient Mayan life.

COCOA

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Note to teacher: Cocoa is a product of lands near the equator where the temperature is always high and heavy convectional rains fall almost all thru the year. Such lands have an equatorial climate and are characterized by the equatorial rain forest described in this article. Examples are the basins of the Congo and the Amazon and the islands within the tropics—the East and West Indies.

Cocoa comes from lands that are always warm and damp. Among them, the chief is the Gold Coast in West Africa which, with Nigeria, grows more than half the cocoa the world uses, either as cocoa to drink or chocolate to eat.

Where there is much rain and much heat there is always very thick forest. In the West African forest the trees grow so closely together that there is very little light upon the ground and there are no big animals except the elephant, which is strong enough to push his way thru the trees and bushes. On the wet ground snakes slide about in the mud; in the branches monkeys chatter and climb and jump; over the tree tops many birds fly to and from their nests; and everywhere there are hundreds of different kinds of insects that bite and sting.

Before there can be any cocoa plantations in such a land the forest must be destroyed by somebody. By whom?

The people who cut down the forest in West Africa, make the plantations and grow the cocoa are Negroes. They own the plantations themselves and the white man has nothing to do with the business except to buy what the black man grows.

The Negroes have large, dark eyes, rather flat, wide noses, thick lips and very white teeth. Because it is so hot they wear little but a piece of gaily colored cotton cloth: the men fasten it around the waist leaving the upper part of the body bare; the women fasten it high up under the armpits; the very little children, the *pickins*, as they are called, usually wear nothing, altho the little girls often wear a string of beads.

Negro women are very fond of their babies and carry them wherever they go. The little ones sit on a cloth pad fastened to the mother's back, and are tied in place by a piece of cloth. The women thus have their arms free when carrying loads on the head, pounding corn, walking, or even dancing.

Among the Negro people it is the women who do most of the

FIG. 1. Cocoa trees, showing pods. These pods contain the beans from which cocoa and chocolate are prepared. Courtesy, Cadbury Brothers, Ltd., Bournville, Birmingham.

work, and the girls have to learn early to weave mats, cook, grind the corn, fetch water from the well or the river, work in the fields and carry loads on their heads. But they are not strong enough to chop down trees, and this has to be done by the men.

The man who means to be a cocoa grower first cuts down all the low bushes and the smaller trees and sets fire to the lot. He usually leaves the big trees standing to shelter the young plants from the wind and shade them from the fierce rays of the burning sun, and he grubs up the roots of the trees that he has felled. All this is very tiring, but his black skin and his thick frizzy hair help him to stand the heat.

The good cocoa planter sows seeds in a nursery; the nursery in this case consists of a large number of "pots," each of which is a piece of the hollow stem of a bamboo. The careless farmer simply scatters his seed on a piece of ground that he has dug up with a hoe.

As soon as the seedlings are strong enough they are planted,

often at equal distances from each other. They grow into small trees about as big as an ordinary apple tree. A cocoa plantation looks like an orchard.

When the cocoa tree is about four or five years old it begins to bear little pale pink and yellow flowers out of which grow pods that are red, purple, yellow or green. The tree is an evergreen, and flowers and pods, ripe and unripe, can often be seen on the same tree, side by side. The whole makes a very pretty picture, something like a fairy garden hung with many colored lanterns.

Fig. 2. Drying cocoa beans on an Ashanti farm. The West African cocoa-growing industry is entirely in the hands of the Africans, from whom European and American manufacturers purchase their requirements. Courtesy, Cadbury Brothers, Ltd., Bournville, Birmingham.

The pods hang from the branches and the trunks of the trees by little stems each about an inch long. They can be picked nearly all the year round, but the "big harvest" begins about the middle of October and ends about the middle of January. The cocoa pods are cut off the tree by men as well as women and children. Those that are low down are removed with a big knife called a cutlass, those high up with a kind of steel hand at the end of a long, light pole usually made of bamboo.

As the pickers pass along under the shade of the trees there is

a noise of talking, rustling leaves and falling pods. Presently the ground is strewn with the pods; these are picked up by the women and children and put into baskets which are carried on the head to a clearing in the forest where they are emptied into one big heap. Round this heap gathers a family party: grandfather, grandmother, father, mother, aunts, cousins, sons and daughters, for all the workers on a cocoa farm are either the family of the farmer or his relations. They sit down in two rings or half rings, the men nearest the pile of pods, the women outside. The men slash the pods open with their knives and the women scoop out, with a wooden spoon, a number of things about as big as almonds, that

FIG. 3. Native porters resting beside the trail.

are called cocoa-beans. At this time these seeds or beans are pink, not brown, and are bitter to taste.

Cocoa, as we buy it in tins or packets, is in the form of a powder, but the beans cannot be ground before they have been dried. The drying is done in Africa, the grinding in some other land, probably in Europe or America.

As a rule, on the Gold Coast, the beans are dried near the farmer's house. This may be of wood and thatched with leaves, but many of the houses are of sun-dried clay or mud. The roofs may be thatched and, in the clay walls, flowers and plants are found growing as if they were in the ground. In the wet season the flat roofs of mud huts sometimes give way, and even the whole hut may fall.

In the old days, when the people used to fight and kill each

other instead of growing cocoa, the flat roofs of many of the mud houses could be reached by climbing up a pole. The pole had notches cut in it, in which to place the feet, and was pulled up when the people were safe on the roof.

In Ashanti the house is built round a courtyard, shaped like the lid of a box, and in the middle of the courtyard are a number of little platforms that look something like the stalls in a market place, but the legs are rough pieces of wood and the table is made of the split ribs of the palm leaf. On top is laid a mat of plaited

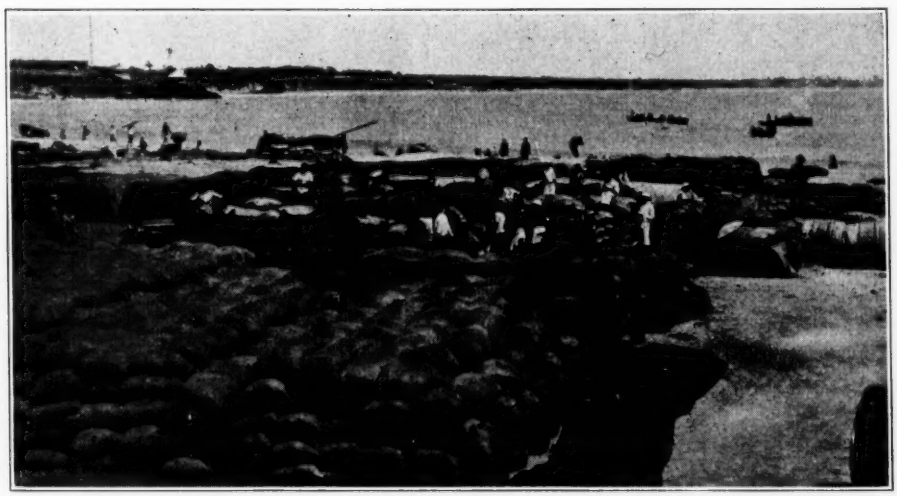

Fig. 4. Cocoa awaiting shipment on the fore-shore at Accra. Owing to the heavy surf, goods and passengers at West African ports have to be conveyed a mile or more between ship and shore by surf boats. A remarkable feat of engineering has, however, been carried out at Takoradi, where a deep water harbor has been constructed, making direct loading possible at that port. Courtesy, Cadbury Brothers, Ltd., Bournville, Birmingham.

grass, and on this the beans are spread to be dried in the sun.

When the beans are ready for market they are put into sacks that must be taken to the buyers. This is more easily said than done. No horses or bullocks can be used because there is a fly in West Africa that kills them. In most places there are now railways or roads along which motor trucks run, but some of the cocoa farms are far away from them. In bygone days the cocoa was sometimes put in barrels and rolled! But the commonest way of moving it, when there is neither rail nor road, is to carry it on the head.

You have to try to imagine a long procession of Negroes leaving

the farm for the office of the white man who buys the cocoa. In the procession are women and girls as well as men and boys, and everybody is wearing bright colors—red, green, yellow, blue, all arranged in striking patterns. Outside these colors there are black arms and legs, black faces and mops of frizzy hair. Everybody is chattering and laughing, for the Negroes are a cheerful, laughter-loving folk. Because the babies cannot be left behind they are tied to the backs of their mothers, and they bob up and down as the procession moves along, their eyes brightly shining and their cheeks dimpled with smiles.

The men of some districts—the Hausas—can carry very heavy loads, and when the procession reaches a resting place by the roadside they place them on a rest made of ropes and poles that stands up above the ground about as high as an ordinary man's head. It is fairly easy to push the sack of beans from the head to the rack or back again; if it be put on the ground it is difficult to pick up.

The buyer sends the cocoa to the railway, after which it is carried to the coast to be put on the ships. Here another trouble begins. The coast of the Gold Coast has but one harbor (and that has only just been made) where the ships can come close to the shore. All the sacks may be ready on the beach but the ships may be two miles away on the wide ocean. So the bags must be put into boats and rowed out. They are piled up high on wooden racks and covered with tarpaulin to keep them dry. When the boat is loaded the crew of eleven men is ready to start.

But it is not easy to start. On this coast the waves come rolling in, in long lines of white surf that break and thunder on the beach and threaten to drown anything that faces them, and to drive back on shore anything that tries to leave. The Negroes, however, who paddle these boats are different from those who grow the cocoa, and as most of them have spent their lives in this business of fighting the waves they are not afraid.

Into the boat they go, their bare backs shining in the sun; the steersman waves his arms; everybody sings and yells; eyes and teeth glitter out of good-humored faces; and the muscles in the rowers' arms stand out like whipcord as they tug away at their short, three-pronged paddles. Soon the sacks are on board one of the big steamers and on their way to the land where the beans will be ground into powder for the manufacture of cocoa and chocolate.

A SURVEY OF BOOKS ON METHODS OF TEACHING OF GEOGRAPHY
1887-1932

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A survey of books on methods of teaching geography published during the period 1887 to 1932 reflects the development of educational philosophy and practice during the last half century. The growth of geography both in scope and significance in the modern school curriculum, and the shift in emphasis from mere memory of subject matter to a mastery of fundamental principles useful in interpreting and solving problems of everyday life are well shown.

Archibald Geikie in his book, The Teaching of Geography, published in 1887, strikes a keynote of modern geography when he writes, "Geography deals with materials giving a comprehensive picture of the earth as the dwelling place of man." His suggestion that the teacher should be so thoroly familiar with his subject that he may "speak to his pupils about it, not in the set phrases of the class book but out of the fullness of his own knowledge, being quick to draw his most effective illustrations from the daily experience of those to whom he addresses himself" remains sound advice for the teacher of today. Geikie pointed out that the child's introduction to a study of geography should not begin with the shape of the earth, or definitions of parallels, meridians and equator just because in the textbooks of his day they came as the first lessons. He held that the study of geography should begin with something the child can see, showing his appreciation of children's interests and abilities. Geikie's theories of 1887 find expression in modern geography textbooks.

King's, Methods and Aids in Geography, for the use of teachers and normal schools, published in 1888, is a comprehensive discussion of principles involved in teaching geography. It discusses the use of maps and pictures, and suggests a course of study. The advantage of teaching geography by the topical method is stressed and illustrated. We may smile at what seems to us an arbitrary classification of "wrong" and "better" methods of teaching geography and we may be skeptical of the "unbounded enthusiasm"

the topical method would create for the "noble study," but back of these expressions we sense a striving to awaken both teachers and pupils to an awareness of real geography. The model lessons seem stilted and artificial as we read them today, but thru their formality an awakening realization of the importance of the relationships of man to his surroundings appears.

Alex. E. Frye in his book, Geography Teaching with Sand Modeling, 1892, emphasized the importance of land relief upon men's lives and insisted that the use of sand models would solve many difficult problems of geographic presentation.

Lucretia Crocker in her book, Methods of Teaching Geography, published in 1892, pleads for a change from memorizing facts and places, and insists that textbooks be guides, not masters. Her organization of subject matter for intermediate grades is not in harmony with recent educational practice. Her model recitation of a fifth grade class on the physical features of the Great Basin seems better adapted to the high school level.

Special Method in Geography by Charles A. McMurry, published in 1903, gives a well rounded presentation of geography both as to content and method. His book includes an outline for a complete course of study in geography from the third grade thru the eighth grade. His main aim is to develop a study of the earth as the home of man thru the selection of a few important topics for each grade which are carefully chosen and elaborately treated. This book stands as an excellent presentation of the "type study" method.

In the decade prior to the World War, new books appeared but no radical changes were introduced. Four books of this period, The Teaching of Geography, by W. J. Sutherland, published in 1909; The Teaching of Geography in Elementary Schools, by Archer, Lewis and Chapman, in 1910; Principles and Methods of Teaching Geography, by Holtz, in 1913; and The Teaching of Geography in The Elementary Schools, by Dodge and Kirchwey, in 1913, contain a survey of the field of geography teaching. The second book in the above list is an English book written primarily for teachers in the English schools. Each book contains chapters on the aims and scope of geography teaching, discussions on how to use the textbook, and suggestions for supplementary materials such as pictures, maps and charts. Special methods of class procedures are explained and illustrated. These books represent a collection of carefully evaluated material and make analysis of the nature of

geography as a science and of the pedagogical principles involved in teaching geography. For a decade or more these books represented the material around which courses of study in geography method were organized.

Immediately after the World War we had several books which presented the idea that a knowledge of geography was essential to understand and to solve the economic, social, and political problems of the world. Geography was recognized as a subject of increasing importance in the school curriculum. The value of geography in training for citizenship was elaborated. This modern evaluation of an old subject gave a new impetus to the study of geography.

The Teaching of Geography, by B. C. Wallis, in 1916, presented practical class exercises, gave a discussion on examinations, made correlations with other subjects, and indicated equipment for classroom use. The Branom brothers in their book The Teaching of Geography, published in 1921, placed new emphasis on *interpretation* in geography study. The organization of the course of study is well developed. Types of classroom activities are offered in some detail. The use of the problem-project method is emphasized.

The Teaching of Geography by Problems, by E. E. Smith, in 1921, deals almost wholly with the problem method of teaching geography. Like McMurry's type studies it is a thoro and enthusiastic presentation of a method of teaching. Broadly interpreted the problem method is recognized as an excellent way to teach much of the geographical material in the course of study.

About this time manuals designed to help teachers using certain textbooks began to appear. The suggestions are based on the materials in the respective books which they are prepared to accompany. For the most part these manuals give suggestions for assignments and pupil activities, and are helpful to teachers.

Rose Clark's Unit Studies in Geography, in 1924, organized the course of study into units selected to suit the children's needs and interests. Various methods of treatment are suggested and illustrated such as the journey method, type study, etc. Many kinds of activity are used in presenting a unit, so that monotony in class procedure is avoided. The chief innovation of this book is the method of subject matter organization and correlation rather than new ways of teaching.

Ridgley's Geographic Principles, published in 1925, defines "geographical principle as a fundamental truth concerning the relationships existing between man's activities and his natural

environment.'' The course of study is analyzed. Certain geographical principles are selected and applied in studies of North America.

Real Geography and Its Place in the Schools, by Harold Fairbanks, in 1927, offers a basic philosophy of geography teaching rather than the presentation of specific teaching aids. A Tentative Course of Study in Geography for Primary Grades, Intermediate Grades, and Junior High School, by DeForest Stull, 1927, gives units of study worked out in detail in actual classroom presentation. It has many practical suggestions which may be used by any teacher.

Modern Methods in Teaching Geography, by Crawford and McDonald, 1929, is a book somewhat similar in its scope to that by Holtz. A comparison of the two books shows the changes that have occurred in nearly twenty years of educational development. Problems, projects, visual aids, and the social viewpoint are new terms and their interpretation is discussed at length.

Geography in the Elementary School, by Thralls and Reeder, published in 1931, is written to give aid to teachers of geography in organizing and teaching the geographic material usually presented in the elementary grades of our American school system. After a brief consideration of the modern viewpoint in teaching geography and the values to be gained thru a study of the subject, the authors enter into somewhat detailed discussions of units of geography suitable for elementary grades. These units are so treated that they may be adapted for use with any course of study or any textbook. The extended bibliographies at the end of each chapter are especially helpful.

Another recent book, The Teaching of Geography, by Moore and Wilcox, published in 1932, is divided into three parts. The first part deals with the nature and place of geography as a part of the modern school curriculum. The second part of the book discusses various methods and procedures approved for classroom activity and the last section deals with the handling of geographic materials and equipment.

In surveying these books on the method of teaching geography the following observations may be made.

1. The books may be divided into two general classes. In the first group are those which summarize and bring up to date the organization of the courses of study and classroom procedure in presenting subject matter, such as the books by Holtz, Branom, and, Thralls and Reeder. In the second group are the books which

present and defend a particular organization and presentation of subject matter. McMurry's, Type Studies; Smith's, Problem Method; and Rose Clark's, Unit Plan, are examples of this type. These books make admirable presentations of their special theses and are contributions in the field of education.

2. Growth in the importance of geography as a study can be traced in the chapters devoted to aims, scope, and significance.

3. Progress in organizing courses of study is indicated by gradual changes from formal outlines of subject matter to courses more in harmony with children's interests and abilities.

4. On the whole, books on methods of teaching geography show an alertness to new developments and a professional interest which promise future advance in the line with educational needs.

BIBLIOGRAPHY OF BOOKS MENTIONED IN SURVEY

1. Archibald Geikie, The Teaching of Geography. London, Macmillan Co., 1887, 202 pages

2. Charles F. King, Methods and Aids in Geography. Boston, Lee and Shepard, 1888, 512 pages

3. Alex. E. Frye, Geography Teaching with Sand Modeling. Hyde Park, Mass., Bay State Pub. Co., 1892, 210 pages

4. Lucretia Crocker, Methods of Teaching Geography. Boston, Boston School Supply Co., 1892, 71 pages

5. Charles A. McMurry, Special Method in Geography. New York, Macmillan Co., 1903, 217 pages

6. W. J. Sutherland, The Teaching of Geography. Chicago, Scott Foresman Co., 1909, 212 pages

7. R. L. Archer, W. J. Lewis, and A. E. Chapman, The Teaching of Geography in Elementary Schools. London, Adam & Charles Black, 1910, 242 pages

8. F. L. Holtz, Principles and Methods of Teaching Geography. New York, Macmillan Co., 1913, 359 pages

9. R. Dodge, and C. Kirchwey, The Teaching of Geography. Chicago, Rand McNally Co., 1913, 248 pages

10. B. C. Wallis, The Teaching of Geography. Cambridge, England, University Press, 1916, 221 pages

11. M. E. and F. K. Branom, The Teaching of Geography. Boston, Ginn & Co., 1921, 292 pages

12. E. Smith, Teaching Geography by Problems. Garden City, Doubleday Page & Co., 1921, 306 pages

13. Rose Clark, Unit Studies in Geography. Yonkers-on-Hudson, World Book Co., 1924, 250 pages

14. D. C. Ridgley, Geographic Principles. Boston, Houghton Mifflin Co., 1925, 190 pages

15. H. W. Fairbanks, Real Geography and Its Place in the Schools. San Francisco, Harr Wagner Publishing Co., 1926, 200 pages

16. DeForest Stull, Tentative Course of Study in Geography for the Primary Grades, Intermediate Grades, Junior High School. New York, Bureau of Publications, Teachers College, Columbia University, 1929, 288 pages.

17. C. Crawford, and L. McDonald, Modern Methods in Teaching Geography. Boston, Houghton Mifflin Co., 1929, 248 pages

18. Zoe A. Thralls, and Edwin H. Reeder, Geography in the Elementary School. Chicago, Rand McNally Co., 1931, 412 pages

19. Clyde B. Moore, and Lillian A. Wilcox, The Teaching of Geography. New York, American Book Co., 1932, 256 pages

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A GEOGRAPHICAL SKETCH OF THE WORLD'S DIAMOND TRADE

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TRADE PATTERN EMPHASIZES THREE GREAT AREAS

Within the last half century, some 44 tons of diamonds have moved from nature's hiding places into world trade, and the total value of diamonds now owned in all countries probably exceeds that of half the world's gold. Commerce in diamonds involves three great areas and concerns many others in lesser degree. The principal lines of the trade pattern connect southern Africa with ports of Western Europe and thence radiate to many regions, but chiefly to the United States and European countries. The flow from Southern Africa to Western Europe constitutes the major movement of rough diamonds from "diggings" to cutting centers and is the outstanding phenomenon of the first division of the world's diamond trade. The second division is represented by lines leading from the diamond-cutting cities to commercial centers in all regions where communities of wealth exist. Along these radiating lines move finished gems, rough stones destined for minor cutting centers, and industrial diamonds.

GEOGRAPHIC FORCES DIRECT FLOW TO PRINCIPAL MARKET AREAS

Active forces as well as tradition operate in directing the flow of rough diamonds to Western Europe. Establishing shipping services give southern Africa more frequent communication with ports of Western Europe than with those of other regions. The financial strength of London exerts a considerable attractile force, for loans totaling millions of dollars annually are negotiated by cutters to finance their purchases of raw material. While diamonds have an important place in modern industry, the gem trade annually takes its pick of the rough diamonds marketed, and special-

ists of this trade are best equipped to make the selection. High-quality cutting requires skill, understanding of crystal structure, and familiarity with fashion trends. Logically, diamond cutting clings persistently to the Continental Seaboard of Western Europe, held by the manual skill which long has been a regional asset, by industrial organization, and by nearness to both Paris and London(Fig.1). Antwerp and Amsterdam do most of the world's diamond cutting, tho the industry spreads in a small way into neighboring countries, some fine work is done in Paris, London, and New York, and small quantities of stones are cut in oriental countries.

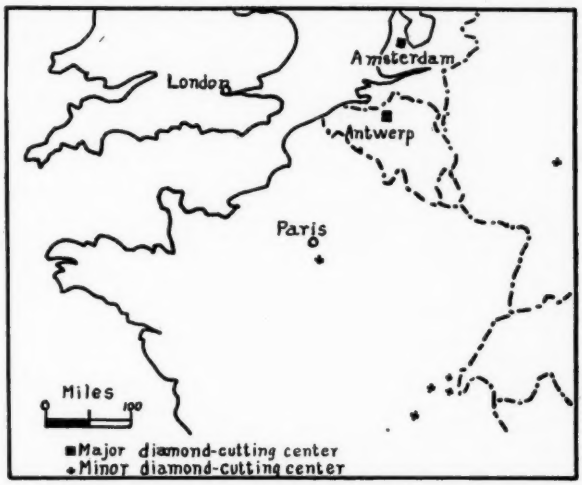

FIG. 1. Sketch map of principal market area for rough diamonds.

Regions of wealth and fashion absorb most of the diamond cutters' output, and the demand fluctuates with temporary changes in prosperity. The importance of London as a market for diamonds might be inferred from the number of buyers taking passage on a week-end boat to purchase stock from Antwerp cutters. Similarly, the visits made to Antwerp and Amsterdam by representatives of dealers in Paris, Madrid, New York, and Vienna testify to the wealth commanded by shoppers in those cities and the regions which they serve. Japan's commercial success in the later years of the world war was accompanied by increasing importance as a market for diamonds; and the United States, during the period of inflation in the 1920's, took about two-thirds of all cut diamonds sold. Imports into the United States rose to a peak of $66,000,000 but dropped sharply after the stock-market crash of 1929; and the present world-wide depression has necessitated closing the diamond mines of South Africa. Thus the demand for diamonds forms a fairly good barometer of wealth. One phase of the demand, however, draws diamonds even into areas of primitive culture. This is the need for a convenient medium into which savings or reserve

funds may be converted—a need particularly important among people having no fixed habitation, in times of war or revolution, and in countries without reliable and widely-distributed banking facilities. For such purposes the diamond has the advantages of small bulk and light weight together with high and relatively stable value. Abnormally large sales of diamonds to Germans and Russians in 1918 were interpreted as indicating fear of financial disaster in Germany and confiscation of property in Russia, and the subsequent fall of the German mark occasioned a rush to buy diamonds. New York dealers reported a sales peak during the disturbed period early in 1933, when people were trembling for the soundness of American currency.

Diamonds not of gem quality constitute from a third to half of the weight of stones taken from the diggings, and these, together with diamond dust and fragments from the cutting establishments, are sold for industrial uses. Industrial diamonds imported into the United States in normal times probably amount to three or four million dollars annually, Western Europe consuming a like amount. The automobile industry makes large use of diamond-set lathe tools and ranks as the largest consumer of industrial diamonds. Wire manufacture annually consumes some three million dollars' worth of dies made by piercing thin fragments of diamond and mounting each small plate in a metal disc. These dies are essential for drawing very fine wire, such as the filaments used for electric lights. Diamond dust forms the most effective and dependable abrasive for fine work, and saws set with diamonds serve for cutting hard stone or alloy steel. The crown of a core drill suitable for deep prospecting or oil-well drilling sometimes carries $25,000 worth of diamonds. The importance of the United States as a market for industrial diamonds is in harmony with the high rank of this country in automobile manufacture, in mineral production, and in the employment of labor-saving machinery.

UNDERSTANDING OF NATURE GUIDES ACTIVITIES IN PRODUCING REGION

Deposits which nature stowed away ages ago in the rocks of southern Africa yield more than 90 per cent of the rough diamonds entering world trade. Diamond mines and alluvial diggings are scattered over a vast area from Lake Victoria and the Belgian Congo to the southern coast (Fig. 2). The mines work deposits known as kimberlite pipes and are operated by companies large

enough to provide elaborate equipment. Kimberlite deposits correspond roughly to the "mother lode" of gold-mining areas. Diamonds are found imbedded in a weathered volcanic rock which has changed to a yellowish clay in its upper portion and to a bluish-green clay at greater depths. Alluvials are worked by lone miners as well as by powerful organizations. These deposits, like deposits of placer gold, result from nature's practice of tearing down land forms after building them. Patches of diamondiferous gravel have been strewn by running water along the course of the Orange River and its tributaries, but the streams also carried great quantities of similar material out to sea, and the coastal deposits near the mouth of the Orange River consist of gravels which the sea hurled back on the shore. The operations of both mines and alluvial diggings have much in common with placer washing. "Blue earth" as taken from the mines does not yield readily to the washing process, but it crumbles after a few months' exposure to sun and air. Clever devices wash away the clay or gravel and retain the slightly heavier diamond. In one of these, the stream of muddy water flows over a greased surface of corrugated metal, to which the diamond crystals alone cling.

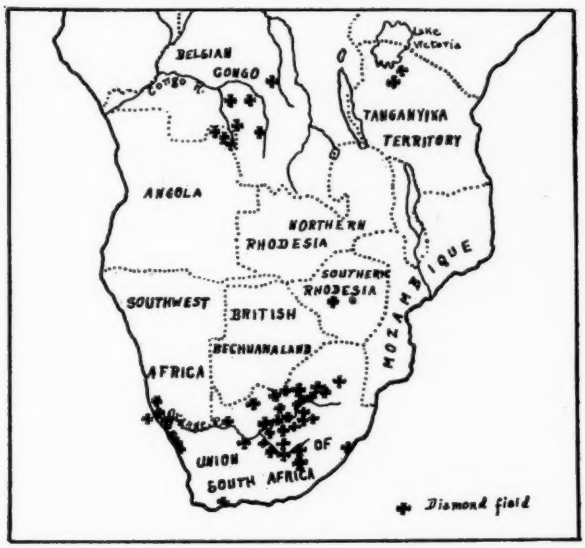

FIG. 2. Sketch map showing principal diamond fields in southern Africa.

Diamond rushes have occurred in South Africa from time to time ever since 1867, when a faceted pebble found by a child first drew the attention of gem experts to the Orange River gravels. Accidental clues led to the earlier discoveries, but many of the newer fields were found thru systematic surveys undertaken in the face of great hardships. The difficulties of prospecting for diamonds in southern Africa are suggested by the following facts: (1) southern Africa is, in general, a sparsely settled area and

much of it is arid or semi-arid; (2) kimberlite pipes and diamondiferous gravels have surface areas not exceeding, in most cases, a few acres, and they are separated by wide stretches of little-known land; (3) the crystals themselves are very small, stones weighing a half ounce or more being so rare as to receive individual mention in annual reports of the diamond industry. The rich kimberlite pipe worked by the Premier mine in the Transvaal was discovered thru ingenious prospecting methods which employed native tribesmen and native animals. Natives were instructed to examine the craws of all game birds and domestic fowls killed and if diamonds were found to report that fact at the nearest store. The presence of diamonds having been established in this way, prospectors determined the exact location of the kimberlite pipe by looking for "yellow earth" in the huge mounds built by certain ants of that region. Prospectors applying to their task a thoro understanding of geological principles have found within the last ten years diamond fields of such amazing wealth as to threaten the stability of the market and lead producing companies to form a marketing organization (the Diamond Corporation) for the purpose of "feeling the pulse of the market" and restricting shipments to the amount which can be sold without greatly affecting prices. Man's ability to probe nature's secrets continues to grow. Recent studies indicate that electrical prospecting for diamonds is a possibility of the near future, since the kimberlite pipes have an electrical resistivity differing from that of the surrounding sedimentary rocks.

A METHOD OF TESTING

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Of the various criteria set up by which geographic literature may be evaluated, those of "personality given to a region," and the use of the so-called "disconcerting data" are two which can be readily incorporated in a type of identification paragraph tests of landscape description and interpretation. The relationship theme is an essential part of the characterization.

The first group below, taken from a unit on Forestry and the second group taken from a unit on the Grazing Industry illustrate such a type of testing.

I. FOREST REGIONS OF UNITED STATES

The following paragraphs describe the various Forest Regions of United States. In the blank before each number, write the name of the area described: Northern, Central Hardwood, Southern, Rocky, or Pacific.

———— 1. The violets, spring beauty, and sweet william blossom in the earliest spring while the warm sunshine reaches them between the bare branches. For soon the deciduous trees will shade the ground and then few flowers are found. Here we find the sprouting seedling of a stray nut that some squirrel planted last fall.

———— 2. But little timber has been cut and the untouched forests clothe the slopes. Probably this region will never be logged over to the extent that every other region in our country has been.

———— 3. Because of the enormous size of trees many new machines and methods of logging were invented. The lumberjacks found that here one tree made a train load whereas in their previous experience many trees were needed to make up a train load.

———— 4. The pioneer wanted farm land. So with his ax he rapidly cleared the timber. The forests were a menace and the fields were to be desired. Now corn and other crops wave in the summer breeze.

———— 5. The owner ordered that ten more acres of timber be cleared. He wanted to plant five acres of tobacco and five acres of cotton on the newly cleared area.

———— 6. Here the heavy rainfall and mild winters favor the growth of the most magnificent trees in the world. They grow tall, tall, tall. Here are stands of Douglas fir, cedar, spruce and sequoia.

———— 7. The spring comes late, the ground stays cool because of the covering of needles and the shade of the trees. Few flowers are found in these woods but rather the busy beaver, muskrat, and weasel.

———— 8. In this belt furniture and vehicles are made from the wood of the

nearby forests. Wagons and cars are needed in this level farm land to carry on trade and transportation.

———————— 9. Wood pulp is made from the smaller second growth. The many water power sites supply the means of grinding the logs, the streams and lakes furnish the fresh water needed to wash pulp.

———————— 10. Logging operations can be carried on the year round. These forests supply about a third of our lumber supply as well as most of the naval stores.

II. GRAZING

The following paragraphs tell about "BOY" who might live in the various grazing lands of the world. He helps his father tend the herds or flocks best suited to the type of pasturage available. Write the name of the country or area in which BOY lives in the blank space before the number of the paragraph.

———————— 1. BOY lives is a sod house. He and his father, who is a gaucho, herd cattle the year round. When BOY is at home he sits on a cow's skull for a chair. He likes to chew tasajo.

———————— 2. BOY hugged his coat closer about him as the cold July winds swept across the veldt. The locusts had eaten every spear of grass and the water holes were dry from the long continued drought.

———————— 3. BOY ran from the corral to his mother, calling, "The wind is shifting to the southwest!" This was good news for soon the cattle would be eating the self-cured bunch grass as the snow cover vanished.

———————— 4. BOY'S kinky head bobbed in and out among the animals in the stockade. He fed this mehari a date, and another a lump of salt.

———————— 5. BOY now had a pony of his own. Often he rode with the Cossacks across the brown dry pastures where tufts of grass were scattered far and wide over the bare ground.

———————— 6. BOY was chewing a handful of dry curds while watching the flocks and herds. Someday the mohair would be made into valuable rugs and then taken by long caravan routes to the capital city to be sold in the market place.

It will be noted that in each paragraph there are at least two words that aid in the identification of the region. These paragraphs can be read effectively, pausing a moment for the name of the region to be written on a paper which has been numbered. The number of descriptions for a unit can be as many as twelve or fifteen or more. Those given above are a few representative examples. The pupils will soon be making out similar characterizations.

Another variation of this same type is illustrated by the following combination of identification of industry and the associated area.

III. INDUSTRY AND ASSOCIATED AREA

In the blank (a) tell what activity or industry is described, and in (b) tell where the place described might be located.

1. The men are busy setting traps and hauling in the seines for the "run" has started. Their work will soon be over and then the nearby factory will close down until the "run" next season.

(a) ———— (b) ————

2. The sun beats down from overhead. The heat is intolerable as the men pick their way slowly thru the underbrush trying to locate the scattered stands. The donkey engines tustle with the heavy loads that weigh down the tracks.

(a) ———— (b) ————

3. The chinook failed to come to their aid. The men rode out on their horses to save what they could and to dig out of the snowbanks those that had perished. The by-products would help to cover some of the loss.

(a) ———— (b) ————

4. With a hiss and a roar it leaped skyward. Those nearby were drenched with a black sticky fluid. Because of the fire danger, school was dismissed and besides the noises in the yard were too exciting to miss!

(a) ———— (b) ————

ANSWERS

I.

1. Central
2. Rocky
3. Pacific
4. Central
5. Southern
6. Pacific
7. Northern
8. Central
9. Northern
10. Southern

II.

1. Pampas
2. Karoo
3. Great Plains
4. Sudan
5. Kirghiz Steppes
6. Plateau of Iran

III.

1. (a) Salmon fishing (b) Pacific Northwest coast
2. (a) Forestry (b) Panama or Amazon
3. (a) Grazing (b) Great Plains
4. (a) Petroleum industry (b) Oklahoma oil fields.

GEOGRAPHY A CENTURY AGO

Certificate

Elizabeth Crane hath been engaged, during her attendance at this school, in storing her memory, that strong and capacious storehouse of mankind, with useful ideas, lessons and information generally.

Pursuant to this end, she hath deposited in her memory for future use the multiplication and other arithmetical tables.

She hath repeated the principal divisions, oceans, islands, etc., and answered 109 questions on the map of the world. She hath recited the principal divisions, lakes, rivers, bays, gulfs, etc., and answered 41 questions on the map of North America.

She hath defined the boundaries of 12 of the United States and repeated 95 of the chief towns and 33 of the principal rivers belonging to these 12 states and answered 86 questions corresponding to the geography of that fine country.

On the map of South America, she hath committed to memory the different countries belonging to that great peninsula and repeated 58 chief towns and 33 of the principal rivers and answered 39 questions corresponding with its geography.

Let no one say, hereafter, that females cannot learn, for that is an assertion without foundation. Elizabeth is a living proof to the contrary and she merits the approbation and encouragement of her parents and friends.

(Signed) P. WARDEN

Morristown, New Jersey
March 8, 1826

INTEREST-STIMULATING DEVICE

MODERN GEOGRAPHY VIA NEWSPAPER CLIPPINGS

One of the best methods of teaching geography, and it may be said in learning geography, is thru the newspapers. And surely it is the way in which to gain the most up-to-date knowledge of what is taking place in the locality, region, nation, continent, and foreign country. Teachers College students and younger pupils must be guided in judging the values of current events. To stimulate interest a map, preferably colored, can be placed on the bulletin board hung in a well lighted and conspicuous place. A label "Geographic Bulletin" made in the print shop, should be tacked above the map. Interest is aroused by discussion of some of the vital geographic current events of the day, the places under discussion located, other clippings distributed, and as enthusiasm mounts, suggestion will follow that, as all are not privileged to read the same newspapers, it will prove beneficial to many to display clippings, and to obtain additional attention by running a string from the clippings to the locational pins on the map. Further consideration will bring the decision that events must be related to industries, crops, climatic factors, facts particular to people, country, etc. At first a committee, under the supervision of the teacher, checks the displayed current events to determine that the valuable space is not taken by news of little consequence. Noticeable growth in discrimination of values and appreciation of recent events of the world will be quite remarkable and many pupils will be able to talk more intelligently of the affairs of the world.

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NOTE

Send descriptions of your interest-stimulating devices to the JOURNAL. We will be pleased to pass them on, as an aid to others, thru the pages of the JOURNAL. There must be hundreds of teachers who have worked out these aids in teaching. Make your description brief, clear, and exact so that another teacher may follow your directions.

EDITOR

EDITORIAL NOTES AND NEWS

Turn to page 298 and read again "Geography a Century Ago." How much progress have you made in your teaching? Are your students simply learning facts to store in their memories or are they acquiring ability to interpret the facts? Are you making those facts mean something in the lives of children? Do the facts really mean something to you? Are you bringing to your classroom the best of which you are capable? Are you familiar with the best in geographic education?

These are days in which the weak teacher is being eliminated by farsighted administrators. Now is the time to hold an interview with yourself. One thing that you can do at once is to become a member of the National Council of Geography Teachers, and receive the JOURNAL. Another is to attend the next annual meeting of the National Council at Northwestern University, Evanston, Illinois, December 28-30. The tentative program will appear in the JOURNAL next month. Sessions will be devoted to The Effective Use of Tools, Field and Laboratory Work, Units of Study, Geography in the High School, and Research Studies in Geography. At the Annual Dinner the Speaker will be Dr. H. C. Morrison of the University of Chicago. Among the many other leaders who will address various sessions are Dr. L. Dudley Stamp, University of London, and Dr. Ernest Horn, University of Iowa. The place of meeting is centrally located this year in the Middle West and now is the time to make your plans and your reservations. Hotel rates are reasonable. They are $3.00 for single rooms and $4.00 for double rooms at either the Georgian Hotel or North Shore Hotel. The Orrington Hotel offers rates varying from $3.00 for single rooms to $6.00 for double rooms. These hotels are only three blocks from the campus.

An appreciation of the work of Julia Bertine Rue whose death occurred last May was recently contributed to the University of North Dakota Alumni Magazine by Howard E. Simpson of the Geography Department of the University of North Dakota. Miss Rue was an instructor in the Geography Department of the Minot State Teachers College, and a member of the North Dakota Council of Geography Teachers.

One of the outstanding achievements of the schools of Britain during 1931-32 has been the assistance rendered by the students in making a land utilization survey of Britain. The project consists of 22,000 sheets of six-inch maps which are being reduced for publication to the scale of one inch to a mile. All farm land is divided according to use into five classes, shown by color symbols, the unproductive agricultural land used for buildings, cemeteries, yards and recreation being in another group. All surface waters, including city reservoirs, main roads and place names are clearly affixed. The work has been under the direction of L. Dudley Stamp of the University of London.

L. DUDLEY STAMP of the University of London will tour the United States this year at the invitation of the American Geographical Society with a fellowship grant from the Rockefeller Foundation. He will study our land utilization problems.

Information relative to securing copies of the Revised Report of Geography Panel of the Education Committee of the League of Nations may be secured from Erna Grassmuck, State Teachers College, Indiana, Pennsylvania.

BARON STEN DE GEER, Professor of Geography at Gothenburg University and formerly of Stockholm, died last June, following a brief illness. During the summer of 1922 he was guest professor at the University of Chicago. His many scientific contributions to the field of geography and his excellent cartographic work are well known in this coun-

try. He was the son of the former Baron and Baroness De Geer, both outstanding in their achievements in research in the field of glacial geology.

News reports indicate that the movement to divide New South Wales into three states has been revived. A boundaries commission has layed out the proposed boundaries. Under this plan an area in the northeast will be known as New England with Newcastle as its principal port and Tamworth as a capital. The other state—Riverina—will extend in a narrow strip across the southern part of the present New South Wales and have an area of about 80,000 square miles. Its coast line will extend from a point a short distance south of Sydney to the Victoria boundary. Jervis Bay and Moruya will probably be the leading sea ports and Albury the capital. This movement for division appears to be based on opposition of agricultural interests to the dominance of the labor party which centers in the cities.

The Office of National Parks, Department of the Interior, has issued recently an unusually complete recreation map of the United States. It is said that it shows more than a thousand places of interest to the traveller. One who examines the map may well accept the accuracy of the statement without attempting a count. Among the points of interest shown are the national and state parks, national and state forests, Indian reservations, and national monuments. Concise descriptions of many of the places are given on the back of the map. The map is for free distribution.

Drought increases the prussic acid content of sudan grass, sorghum, and Johnson grass to such an extent as to render them extremely dangerous as a pasture or green feed for livestock. The safest way to utilize such crops, Department of Agriculture specialists say, is to use them as ensilage, taking care to add enough water to insure fermentation which sets free the acid.

An inexpensive leaflet, U. S. Department of Agriculture Leaflet 87, Wind-Resistant Construction for Farm Buildings, shows how buildings may be made generally resistant to wind pressures. That the leaflet is timely may be seen from the fact that the investigation by the Bureau of Agricultural Engineering, U. S. Department of Agriculture, of the tornado-swept areas in South Carolina and Alabama last spring revealed that the damage would have been much less severe had the buildings been bolted down and even moderately well nailed and braced.

According to a recent release from the Department of the Interior, mines in Alaska produced minerals worth more than eleven million dollars in 1932. Since 1880, the territory's output has been more than one-half a billion dollars. Gold was far in the lead of all others in 1932, followed by copper, coal, lead, and silver. The gold output is widely distributed, but that of the Yukon Basin, followed by Seward Peninsula, is greatest. The copper comes largely from the Copper River region and the coal from the Matanuska and Healy River fields.

The geography section of the Educational Conference to Study Problems Concerning Preparation of Teachers in Missouri which was held last spring, adopted a series of resolutions which promise to strengthen materially the preparation of teachers in the field of geography. Representatives from the state university, the five state teachers colleges, and the Christian College for Women were present, Sam T. Bratton of the University being Chairman. They set up skills and objectives to be acquired, recommended courses, texts, and number of hours of training for the various teaching certificates. They seek to standardize correspondence courses in geography and urge county superintendents to see that geography gets its due share of attention in the rural schools.

GEOGRAPHICAL PUBLICATIONS

P. W. Bryan. **Man's Adaptation of Nature.** 386 pp. 125 illustrations. Henry Holt & Co., N.Y., 1933. $3.50

P. W. Bryan, the English geographer, is known personally and thru his writings to many Americans. His recent book, "Man's Adaptation of Nature," will be welcomed by them because of the challenging title of the volume. The title indicates at once that he definitely aligns himself against the older school of geographers who hold that man is a product, to a greater or less extent, of his environment; indeed his book is a defense of that point of view. In addition to this it is an analysis of cultural landscapes, and here Mr. Bryan is more thoro than any other geographer writing in English. His book will therefore be recognized as a contribution of importance to the few recent works on the philosophy of geography. It should be read by all interested in the subject.

However, Mr. Bryan's thesis is debatable. He would have us adhere to a school which postulates that we think of geography as man's adaptation of nature, rather than that man is more or less the creature of Earth's influences. He pleads for this adherence because he believes that there is less "wooliness" in this newer line of thinking. He holds it to be the simpler philosophy with the clearer cut conclusions. Unfortunately for this method, it is not invariably the simpler line of thought which leads to the more correct conclusions.

But are the two lines of thought always divergent? Mr. Bryan gives us an excellent analysis of the corn belt cultural landscape and Americans will be grateful for the fine perspective he brings to this study. This chapter is written in such a way as to conform to the school of thought which Mr. Bryan supports, yet there is nothing in it which would offend the adherents of the older school. The difference in the manner in which the expositors of the two schools would approach this problem is more a question of arrangement, or perhaps of rhetoric, than of philosophy.

If a student insists upon supporting a single approach to geographic problems he perhaps would better stay by the older school of thought. The difficulties of the later school are witnessed when Mr. Bryan enters the field of urban geography. When considering the cultural landscape of our cities it takes him into such purely sociological questions as linguistics, gangster shootings and the Gettysburg address. Had he remained with the Ratzel school he would have avoided these errors. There is, as a matter of fact, a limited amount of geographic causation in the character of urban landscapes.

But whether or not the reader is in complete sympathy with Mr. Bryan he will find the book provocative and interesting; the product of a man of wide views, and with the courage to sustain those views.

RODERICK PEATTIE

Ohio State University

George Philip and V. C. Finch. **Standard School Atlas.** 99 pages. D. Appleton and Co., New York. 1932. $1.50

Appleton's Standard School Atlas was designed for use in the intermediate grades and the junior high school. It comes in response to the cry of many elementary school teachers, "If only there were a cheap enough atlas on the market, so that each child could have one for use in geography, history, literature, and current events!"

There is an introduction of 12 pages which presents very clearly material on scales, projections, and methods for the teacher. Then follows an able introduction of about eight pages for children of the fifth grade level under the title of "Adventures in Map Reading."

In the 40 pages of colored maps which the atlas contains, a remarkable amount of map information is available. World maps of temperature, rainfall, vegetation, and population density are followed by population-density maps of the United States and Europe. Six maps delineate the physiographic, climatic, agricultural, forest, mineral, and manufactural regions of the United States. Physical-political maps of the six inhabited continents show in seven colors the various ranges of altitude. Superimposed upon these colors are the political boundaries of countries in red and the major cities in black. The United States is presented on the scale of 1 inch to 190 miles with so few place names that it is easily readable by the beginner. For detail, five pages of maps of the various sections of the United States on a scale of 1 inch to 126 miles are provided. Enlargements of Canada, Caribbean America, northwest Europe, the Mediterranean lands, central South America, southern and central Asia, central and south Africa give as much detail as the elementary grades and the junior high are likely to need.

On the whole the maps are legible with the exception of the map of the British Isles, page 22, and that of the eastern United States, pages 8-9. There needs be a great number of place names on these two maps. The names, however, are poorly placed with reference to the symbols, and the symbols are so dim that one has difficulty finding the location of the city after detecting the printed name. The other maps have only the major cities located, so their legibility is much higher.

Several items have been included which are somewhat puzzling. January and July temperature maps of North America are labelled "Actual Temperature," yet a footnote states "Temperatures reduced to sea level." A classification of land forms which applies well to a small land mass such as Great Britain has been ill-advisedly used for the continents: 0 to 600 feet *lowlands,* 600 feet to 1200 feet *upland,* more than 1200 feet *highlands.* The use of such blanket terms is likely to give the beginner erroneous ideas concerning the interpretation of various elevations. However, if the teacher guards against the use of these terms for large land masses, the color-band maps are decidedly useable.

The atlas is well indexed. Some 6600 place names appear, each being located as to page of the atlas on which it is mapped and its latitude and longitude given. On the whole, the atlas provides at a low price a useful piece of individual equipment for the elementary and junior high school child.

MARGUERITE UTTLEY

State Teachers College
Cedar Falls, Iowa

Raymond E. Murphy. **The Mineral Industries of Pennsylvania, Trends of the Mineral Producing and Processing Industries.** 185 pages. Commonwealth of Pennsylvania. Greater Pennsylvania Council. July, 1933. $1.00

The preparation of a short bulletin covering the whole range of Pennsylvania's mineral industries is an imposing task and, if well done, the resulting study should not merely fulfill its major function, namely, the collating "of facts upon which to base a program of education and research on mineral industries," but should also be useful in a practical way in college geography classes. Suffice it to say that this bulletin is well done and is a credit to all those concerned in its production.

The sixteen chapters are devoted to a consideration of the various producing and processing industries with proportions of space approximately as follows: anthracite 9 per cent, bituminous 14 per cent, petroleum and natural gas 16 per cent, common rocks 29 per cent and metal industries 16 per cent. Necessarily, much that is contained in the bulletin has already been made familiar thru earlier writings in economic geology and geography, but there is much information which is new at least to those of us who are not closely in touch with the Pennsylvania mineral situation. For example, Chapter 6—

The Petroleum Industry—illustrates the breadth of subject-matter treated with sections on history, exploration, primary and secondary methods of production, costs, wastes, uses, markets, over-production, pro-ration, conservation, transportation, refining, tariffs and future in Pennsylvania. As in all chapters, frequent reference is made in this one to the same industry in other parts of the country as well as making clear the proportion of petroleum furnished by Pennsylvania. Numerous and varied types of grafs and maps aid materially in the effectiveness of presentation of the subject-matter. The bulletin can be used with good results in college classes in economic geography.

RALPH H. BROWN

University of Minnesota

Isaac Lippincott. **Economic Development of the United States.** 734 pp. D. Appleton & Co., N.Y. 1933

With the experiences and materials of the two previous editions, this third edition of Economic Development of the United States becomes not only a revised and enlarged edition, but also one that has had its theories tested by further evolutionary processes. Moreover so much has happened in the economic life of the country since the second edition was published in 1921 that the present book is in reality a new publication. One cannot overstress the need of a wide knowledge of our economic progress for every student of our present situation. One may learn here of the growth and expansion of our various industries, how they have been engendered by natural conditions and man-made devices, and how these same instruments have brought them to their present state.

The subject of the book is treated broadly, and there are included many concomitant discussions which are essential to the understanding of the main theme. Thus, there appears at various stages of the story expositions on the social and political conditions such as the wealth, educational advantages, religious life, and even the temper of the people as affected by these things and which is a factor in further progress. The story is divided into three stages: first, the Colonial Period which gives the genesis and background; then a period devoted to the founding of our national industrial system (1789-1866); and finally the period of expansion (1860-1930). The author has collected an amazing array of subjects. For example, in the era of expansion, the commercial development includes the means of communication, money and banking, and commercial organizations. Each of these major headings is carefully expanded to include every available phase of the subject. Commercial organizations are treated under the sub-topics of chambers of commerce and allied boards, auction markets, stock exchanges, department stores, mail order businesses, chain stores, installment selling, discount companies, insurances of all kinds, storage, mercantile agencies, advertising, retail markets and commercial education.

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NEW PUBLICATIONS

Brigham and McFarlane. **Our Continental Neighbors.** 390 pp. Illustrated. American Book Co., N.Y. 1933. $1.52

The third book in the series, Our World and Ourselves. The people of each continent are studied in relation to their environment, the treatment given each depending on its relative importance in our modern world. The maps include those showing physical and political features as well as the distribution of population, crops, minerals and lines of transportation.

Grant E. Finch. **New England.** 154 pp. Illustrated. Rand McNally & Co., Chicago. 1933

A treatment of the region as a whole as it is adapted to farming, recreation, transportation, and other major industries, followed by separate treatment of each state. Exercises are provided at the end of each section.

R. E. Dickinson and O. J. R. Howarth. **The Making of Geography.** 264 pp. Illustrated. Oxford University Press. 114 Fifth Ave., N.Y. 1933. $3.00

A history of the progress of geographical science. The record has been built up, on the results of explorations, during the past three thousand years.

Packard, Sinnott and Overton. **The Nations at Work.** 696 pp. Illustrated. The Macmillan Co., N.Y. 1933. $1.72

An industrial and commercial geography for high schools. The first half of the text deals with the industries and commerce of the United States, followed by that of all the other important countries of the world. Progress and trends in commerce and industry are viewed in relation to their historical development. There are questions and exercises for each section.

Loyal Durand, Jr. **Physiographic Diagram of Wisconsin.** The Geographical Press, Columbia University, N.Y. 1933

A description of the five physiographic regions into which the state is divided is included with the map.

P. W. Bryan. **Man's Adaptation of Nature.** 385 pp. Illustrated. Henry Holt & Co., N.Y. 1933. $3.50

A philosophical concept of geography based on studies of the cultural landscapes of selected activities and areas examined in relation to the natural environment.

Rose M. MacDonald. **Then and Now in Dixie.** 293 pp. Illustrated. Ginn & Co., Boston. 1933

A reader for grades four and five combining history and geography. The stories related deal with visits to farms producing the principal crops of Virginia and to centers of early historical significance.

Rollin T. Chamberlin and Paul MacClintock. **College Textbook of Geology. Part I. Geologic Processes and Their Results.** 445 pp. 375 illustrations. Henry Holt & Co., N.Y. 1933. $3.50

This is the second revised edition of the well known Chamberlin and Salisbury text. The incisive, understandable, clear style of the original volume is maintained. The printing, including the illustrations, is excellent. It is a pleasure to read the book.

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Mr. Stotz is a graduate of the College of the City of Detroit and is working on his doctorate thesis to be presented at Clark University. He is head of the department of geography at Robert College, Istanbul, Turkey, where he is now spending his third year. He has traveled over most of Europe and Asia Minor, and has done extensive field work in Anatolia, Greece and Italy. Another article on this region, entitled Life in the Communities Along the Bosphorus, appeared in May, 1932, and a third will be published in the near future. This is the thirtieth contribution to our HUMAN GEOGRAPHY series. Do you have all of them?

Elementary School Geography and World Problems. By Amy Bronsky 316

Miss Bronsky is Assistant Professor of Education in Ohio State University, and an Associate Editor of *Education*. She was formerly State Inspector of Elementary Schools in Wisconsin, and Director, Intermediate Department, State Teachers College, Superior, Wisconsin.

The Rubber Growers. By Ernest Young 323

Mr. Young is a Fellow of the Royal Geographical Society and author of The Kingdom of the Yellow Robe, Finland, and other books. He has traveled extensively thruout the world and writes from intimate knowledge of his subject. His many years of educational service enables him to write effectively for children as this series of articles so well illustrates. This is the second in our UNIT STUDIES series.

Concerning the Revision of Courses of Study in Geography. By David J. Swartz 329

Dr. Swartz is Chairman of the Pre-Industrial Department at Haaren High School, New York City; author of Instructive Geography Cards, Instructive Outline Maps, Teaching the Recall of Wind Belts and Wind Directions; co-author of At Home and Afar; and inventor of the Tellurometer. He served on two committees of the Board of Education of the City of New York in the revision of courses of study for elementary and senior high schools and has been consultant of committees of other communities in the revision of courses in geography. For several years he lectured on method and content in geography in the College of the City of New York.

"Metropolitan Districts, Population and Area." A Critique. By Derwent Whittlesey 334

Dr. Whittlesey is an associate professor of geography, Harvard University; Editor of the *Annals of the Association of American Geographers;* joint author of An Introduction to Economic Geography; and author of Human Occupance of the Lowest Rhineland, JOURNAL OF GEOGRAPHY, February, 1930. Two recent contributions in the field of political geography appeared in the *Scottish Geographical Magazine*, and the *Journal of Modern History.*

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